Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

Leaflet No. 131

LIBRARY
AUG 2

Production of Eggplant

U. S. DEPARTMENT OF AGRICULTURE

PRODUCTION OF EGGPLANT

By J. H. Beattie, *senior horticulturist, Division of Fruit and Vegetable Crops and Diseases, Bureau of Plant Industry*

History and Relationship

The eggplant is native to the warmer portions of the Old World. India is probably its home, as the plant is found there in the wild state. The Chinese and the Arabs grew eggplant as early as the ninth century, and it is supposed to have been introduced into Europe by the early invaders. According to available records the early types had small fruits of ovoid shape, this perhaps accounting for the name "eggplant." The botanical name of the eggplant is *Solanum melongena*, and it is closely related to the tomato, the potato, pepper, and other solanaceous plants. It is interesting to note that two of our serious weed pests, the horsenettle and the nightshade, belong to the same genus as the eggplant.

The eggplant has been variously classified chiefly by the size of the plant and the shape of the fruit, whether ovoid, round, or oblong. Another classification is dependent upon the presence or absence of spines on the plants. However, these descriptions are not of great importance to the gardener and truck-crop grower.

Varieties

Black Beauty and Florida High Bush are the varieties of eggplant most extensively grown in the United States, although Improved Large Purple and New York Purple are well-known varieties. Black Beauty plants grow to a height of 24 to 30 inches. Its fruits are globe-shaped with a slight tendency to being triangular. The fruits of this variety are large and symmetrical, but are thicker and broader than those of other varieties and retain their glossy black-purple coloring for a long time. Improved Large Purple is a spineless and very popular variety, owing to the vigor of the plants and the large size and fine quality of the fruits. The plants are large and spreading; the fruits are oval in shape and of a fine dark-purple color. New York Purple is one of the oldest and best-known varieties on the market today. It is an early variety and is especially adapted for growing on sandy loam soils. Florida High Bush requires about 130 days from the time the seed is sown until the fruits are ready to market. The plants make a very rank growth, often being 3 to 4 feet in height and bearing the fruits well off the ground. The fruits are long, oval, purple in color and excellent for shipping. This variety is slightly later than Black Beauty, requiring about 10 days longer to come to maturity.

Climatic Adaptation and Soil

The eggplant is of tropical and subtropical origin, and it will thrive only under relatively high-temperature conditions. In the

144096°—37

North its culture is limited to those sections having warm summers, with a growing season of more than 4 months. This limitation prevents the successful culture of the eggplant in many parts of the North. In the South it may be grown during spring, summer, and autumn in practically all locations where suitable soil and moisture conditions are to be found.

The eggplant flourishes on almost any type of soil that is fertile and well drained but sufficiently supplied with moisture. It is successfully grown on lands varying from sands to clays and mucks. Fertility, moisture supply, and drainage should be the determining factors in selecting land for eggplant culture.

Fertilizer and Manure

Both commercial fertilizer and manure can be profitably employed in eggplant culture. Fertile soils may well receive an application of a half ton per 1,000 square feet, or 20 tons per acre, of well-rotted manure, this applied to and mixed with the soil while it is being prepared for planting. From 1,200 to 2,000 pounds per acre of a complete fertilizer analyzing from 5 to 7 percent of nitrogen, 8 to 10 percent of phosphoric acid, and 6 to 8 percent of potash should also be applied broadcast during the final preparations of the soil. The treatments suggested should be suitable under most conditions, but may be varied somewhat according to the past treatment and present fertility of the land.

Growing the Plants

The eggplant is usually established in the garden, truck patch, or field by using plants started in a hotbed, greenhouse, or an outdoor seedbed. In the North, where the growing season is short, the plants are invariably started indoors and moved to the open when about 6 weeks old. In the South, with its longer growing season, it is often possible to sow the seeds in outdoor beds, this being especially true of plants for a late crop.

The growing of the plants is an exceedingly important matter. If the plants are stunted or injured by insects or diseases they will seldom give satisfactory yields and one of the common causes for failure with the crop is the use of poor plants. Plants that become woody or hardened are unfit for planting.

Eggplant seed should be sown in rich, mellow soil, either in the hotbed, the greenhouse bed, or flats. The seed should be covered to a depth of about one-half inch and placed where a temperature of 70° to 75° F. may be maintained, and carefully guarded against drying out. Soaking the seeds for a few hours in water before planting them will hasten germination. About 8 to 10 weeks should be allowed for growing the plants. The date for sowing the seed can be determined by figuring back from the probable date of setting the plants in the open. For instance, in the latitude of Washington, D. C., or Indianapolis, Ind., where the plants may be set in the open about the last of May, the seed should be sowed during the last of March.

The seedlings may be transplanted from the seed flat or seedbed when about 2 weeks old if desired. When transplanted, they are usually placed about 3 to 4 inches apart in flats or in plant bands, clay pots, or other suitable containers. A rich potting soil made of two parts rotted sod and one part thoroughly rotted manure and a little sand is quite suitable for use in transplanting the plants.

The growers around Norfolk, Va., frequently grow their plants in greenhouses, using 5- or 6-inch clay pots or paper bands. The New Jersey growers spot their plants in flue-heated beds and move them to the field with a block of soil around the roots of each plant.

The temperature of the hotbed or the greenhouse should be reduced somewhat after the plants come up, day temperatures to 65° to 70° F., and night temperatures to 50° or perhaps a little lower. The plant structure should be managed in such a manner that the proper temperatures may be maintained with free ventilation. Without proper ventilation, weak, spindling plants will result. It should be the aim to produce plants that are neither stunted nor overgrown and soft. Strict attention must be given to the protection of the plants in the plant bed or greenhouse from insects, particularly aphids, flea beetles, and thrips.

Planting and Cultivation

Eggplant is more sensitive to weather conditions when set in the field than any other vegetable that is handled in the same manner. Most gardeners defer setting their plants in the open for a week or 10 days after the setting of tomato and pepper plants. It is a good rule to delay the setting of eggplant not only until all danger of frost is past but until the ground is well warmed up and the weather thoroughly settled. The use of plant protectors makes it possible to set these and other plants somewhat earlier than would otherwise be possible. These protectors are available in a number of types, such as paraffin paper cones, wooden boxes covered with a pane of glass, or panes of glass set edgewise to form a box and covered with a piece of cheesecloth or parchment paper. With sensitive plants like the eggplant the use of these devices is often advisable.

The cultivation recommended is the same as for all other garden crops, being limited to that necessary for the control of weeds. In order to maintain the plants in good production, irrigation may be necessary during dry periods.

Diseases and Insects

Fruit rot and wilt are serious diseases of the eggplant. The fruit rot is characterized by cankerlike lesions on the lower portion of the stem, by leaf spots which may enlarge until the whole leaf turns brown, and by large sunken tan-colored or black areas on the fruits. The disease may be carried over winter by the seed and on the debris in the soil from the previous crop. To control fruit rot use clean seed and practice a 3- to 4-year crop rotation. Spraying at weekly intervals with a 4–6–50 bordeaux mixture to which 2 pounds of calcium arsenate has been added has been found to give effective control.

Wilt is particularly common in the cooler portions of the country and is similar in its behavior to the wilt disease of the tomato. It is not carried by the seed but seems to persist in the soil indefinitely and to be distributed by plants from infested seedbeds. Wilt injury ranges from stunting, with decreased productivity, to the death of the entire plant.

Several insects, particularly flea beetles, aphids, and sometimes the Colorado potato beetle, attack the eggplant. Red spiders also occasionally become troublesome on eggplants, especially during periods of dry weather. For information regarding the control of these pests apply to your local county agent, to your State agricultural experiment station, or to the United States Department of Agriculture, Washington, D. C. Farmers' Bulletin No. 1371, issued by the U. S. Department of Agriculture, contains information on the diseases and insects of garden vegetables.

May 21, 2013

Harvesting and Handling

The fruits of the eggplant may be harvested at any time after they have reached sufficient size, but they should be taken from the plants before the flesh becomes tough and the seeds commence to harden. The best-quality fruits are invariably those that have not been allowed to stay on the plant too long. For home use it is advisable to take the fruits when they have attained a diameter of about 4 inches. For commercial use where yield is of more importance it may be advisable to leave them until they attain a little larger size.

The fruits are marketed in many different types of containers. In local market-garden production, where the crop is usually hauled direct to market, they are ordinarily placed in hampers and baskets and sold by the piece or by the pound. If they are to be shipped to distant markets the fruits are wrapped and packed in crates. The standard Florida pepper crate, which is 11 by 13⅜ by 22 inches, is largely used. In the Norfolk, Va., district the standard 32-quart berry crate with a hinged lid is often used for the shipment of eggplant.

United States standards for field-grown eggplant have been established and copies can be obtained by writing the Bureau of Agricultural Economics, United States Department of Agriculture, Washington, D. C.

Uses of the Eggplant

The eggplant may be prepared for the table in a number of ways. Unfortunately, most cooks are not particularly familiar with it and therefore do not appreciate its true worth. When properly handled it is nutritious and appetizing and deserves far more attention than it now receives. Information on the utilization of the product may be obtained from the Bureau of Home Economics, United States Department of Agriculture, Washington, D. C.

Caution

No arsenical or other highly poisonous sprays or dusts should be applied after the fruits have started to develop unless the poison residue can be adequately removed from the fruit before it is marketed or prepared for use.

U. S. GOVERNMENT PRINTING OFFICE: 1937

For sale by the Superintendent of Documents, Washington, D. C. - - - - - Price 5 cents